

**AMENDMENTS TO THE CLAIMS**

**Please cancel claim 3 without prejudice or disclaimer, add new claims 9-20 and amend the claims as follows:**

1. (Currently Amended) A semiconductor layer, ~~characterized by~~ comprising:  
a first layer ~~made of~~ comprising a  $\text{Ga}_2\text{O}_3$  system ~~semiconductor~~ single crystal  
substrate; and  
a second layer obtained by replacing a part ~~[[or]]~~ rather than all of oxygen atoms of the first layer with nitrogen atoms.
2. (Currently Amended) A semiconductor layer according to claim 1, ~~characterized in that:~~ wherein the second layer is ~~made of~~ comprises a GaN system compound semiconductor.
3. (Cancelled.)
4. (Currently Amended) A semiconductor layer according to claim 1, ~~characterized in that:~~ wherein the first layer is ~~made of~~ comprises  $\text{Ga}_2\text{O}_3$ ,  $(\text{In}_x\text{Ga}_{1-x})_2\text{O}_3$  where  $0 \leq x < 1$ ,  $(\text{Al}_x\text{Ga}_{1-x})_2\text{O}_3$  where  $0 \leq x < 1$ ,  $(\text{In}_x\text{Al}_y\text{Ga}_{1-x-y})_2\text{O}_3$  where  $0 \leq x < 1$ ,  $0 \leq y < 1$ , and  $0 \leq x + y < 1$ , ~~or the like,~~ as a main constituent.
5. (Currently Amended) A semiconductor layer according to claim 2, ~~characterized in that:~~ wherein the second layer is ~~made of~~ comprises GaN,  $\text{In}_z\text{Ga}_{1-z}\text{N}$  where  $0 \leq z < 1$ ,  $\text{Al}_z\text{Ga}_{1-z}\text{N}$  where  $0 \leq z < 1$ ,  $\text{In}_z\text{Al}_p\text{Ga}_{1-z-p}\text{N}$  where  $0 \leq z < 1$ ,  $0 \leq p < 1$ , and  $0 \leq z + p < 1$ , ~~or the like,~~ as a main constituent.
6. (Currently Amended) A semiconductor layer, ~~characterized by~~ comprising:  
a first layer ~~made of~~ comprising a  $\text{Ga}_2\text{O}_3$  system semiconductor;  
a second layer ~~made of~~ comprising a GaN system compound semiconductor and  
obtained by replacing a part or all of oxygen atoms of the first layer with nitrogen atoms;  
and

a third layer ~~made of~~ comprising an GaN system epitaxial layer ~~and formed~~ grown on the second layer.

7. (Currently Amended) A semiconductor layer, ~~characterized by~~ comprising:  
a first layer ~~made of~~ comprising a  $\text{Ga}_2\text{O}_3$  system semiconductor; and  
a second layer ~~made of~~ comprising a GaN system compound semiconductor and  
formed on the first layer,

wherein the first layer comprises at least one of  $(\text{In}_x\text{Ga}_{1-x})_2\text{O}_3$  where  $0 < x < 1$ ,  $(\text{Al}_x\text{Ga}_{1-x})_2\text{O}_3$  where  $0 < x < 1$ ,  $(\text{In}_x\text{Al}_y\text{Ga}_{1-x-y})_2\text{O}_3$  where  $0 < x < 1$ ,  $0 < y < 1$ , and  $0 < x + y < 1$ .

8. (Currently Amended) A semiconductor layer, ~~characterized by~~ comprising:  
a first layer ~~made of~~ comprising a  $\text{Ga}_2\text{O}_3$  system semiconductor;  
a second layer ~~made of~~ comprising a GaN system compound semiconductor and  
formed on the first layer; and  
a third layer ~~made of~~ comprising an GaN system epitaxial layer ~~and formed~~ grown on the second layer.

9. (New) A semiconductor layer according to claim 1, wherein the first layer consists of a single crystal  $\beta\text{-Ga}_2\text{O}_3$ .

10. (New) A semiconductor layer according to claim 9, wherein the single crystal  $\beta\text{-Ga}_2\text{O}_3$  has a prismatic shape having a square in cross section, and its axis direction matches a-axis  $\langle 100 \rangle$  orientation, b-axis  $\langle 010 \rangle$  orientation, or c-axis  $\langle 001 \rangle$  orientation.

11. (New) A semiconductor layer according to claim 1, wherein the first layer comprises  $(\text{In}_x\text{Ga}_{1-x})_2\text{O}_3$  where  $0 < x < 1$ .

12. (New) A semiconductor layer according to claim 1, wherein the first layer comprises  $(\text{Al}_x\text{Ga}_{1-x})_2\text{O}_3$  where  $0 < x < 1$ .

13. (New) A semiconductor layer according to claim 1, wherein the first layer comprises

$(\text{In}_x\text{Al}_y\text{Ga}_{1-x-y})_2\text{O}_3$  where  $0 < x < 1$ ,  $0 < y < 1$ , and  $0 < x + y < 1$ .

14. (New) A semiconductor layer according to claim 6, wherein the second layer comprises a same compound semiconductor as the third layer.
15. (New) A semiconductor layer according to claim 6, wherein the first layer consists of single crystal  $\beta\text{-Ga}_2\text{O}_3$ .
16. (New) A semiconductor layer according to claim 7, wherein the first layer further comprises a single crystal  $\beta\text{-Ga}_2\text{O}_3$ .
17. (New) A semiconductor layer according to claim 16, wherein the single crystal  $\beta\text{-Ga}_2\text{O}_3$  has a prismatic shape having a square in cross section, and its axis direction matches a-axis  $\langle 100 \rangle$  orientation, b-axis  $\langle 010 \rangle$  orientation, or c-axis  $\langle 001 \rangle$  orientation.
18. (New) A semiconductor layer according to claim 7, further comprising a third layer comprising an GaN system epitaxial layer grown on the second layer.
19. (New) A semiconductor layer according to claim 8, wherein the second layer comprises a same compound semiconductor as the third layer.
20. (New) A semiconductor layer according to claim 8, wherein the first layer consists of single crystal  $\beta\text{-Ga}_2\text{O}_3$ .
21. (New) A semiconductor layer, comprising:
  - a first layer comprising a  $\text{Ga}_2\text{O}_3$  system single crystal substrate; and
  - a second layer obtained by replacing a part rather than all of oxygen atoms of the first layer with nitrogen atoms, wherein the second layer comprises a GaN system compound semiconductor.